

Dr. Nicholas Kirkwood

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I'm a researcher, technology development and industry engagement expert with 10+ years of experience in advanced energy and materials research, translating scientific discoveries into sustainable & impactful technologies, and managing industry collaborations.

I have a proven track record in analysing and communicating highly technical research and data to a diverse range of audiences as well as building & maintaining mutually beneficial partnerships.

I am driven to help bring about a sustainable transition to a sustainable, net-zero emission economy.

Experience

2022+: Science & Industry Liaison Manager (ARC Centre of Excellence in Exciton Science)

- Ran Entrepreneurship Funding program, leading to formation of a spin-out company and over 7x return on \$75k funding investment in the form of a \$540k Defence (NISDRG) grant
- Built techno-economic analysis tool to estimate production costs during scale-up of lab research, guiding initial customer and market targets
- Progressed solar energy and security feature technologies past multiple industry stage-gates in collaboration with industry partners ClearVue and the Reserve Bank of Australia
- Facilitated dozens of new connections between academics and industry and worked with stakeholders to build three new formalised industry collaborations

2019-2022: Post-Doctoral Researcher and Lab Manager (The University of Melbourne)

- Developed a local manufacturing capability for nanoparticles used in COVID-19 test kits and verified use with local companies
- Communicated key results via many formats including a radio interview, magazine article and public lecture
- Built an open-source retrofit tool to significantly reduce fumehood energy consumption

2016-2018: Post-Doctoral Researcher (TU Delft, The Netherlands)

- Developed new materials for efficient LED lighting phosphors with industry partner Lumileds

2012-2016: PhD in Chemistry (The University of Melbourne & CSIRO)

- Developed nanoparticle 'quantum dots' that are almost perfect emitters of light
- Proved applications of quantum dots in LED and light emitting field-effect transistor devices

Skills

General: Problem solving • Critical thinking • Data analysis and presentation • Project management • Audience-specific communication • Business development • Customer discovery

Technical: Excel • Python • LaTeX • Fusion360 • Materials synthesis and characterisation • Quantum mechanics • Techno-economic analysis of emerging technologies • Solar Energy

Presentations, Publications, and other outputs

Author on over 45 peer-reviewed scientific publications with a total of over 1,550 citations. A full list can be found on my Google Scholar page: scholar.google.com.au/citations?user=PE8HP70AAAAJ

A list of media and communication outputs, presentations and other project outputs can be found on my personal website: nrmkirkwood.github.io